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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/161,283 09/28/98 MAEKAWA T PMS255979

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IM22/1228

EXAMINER

AHMED, S

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 12/28/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/161,283

Applicant(s)

Maekawa

Examiner

Sheeba Ahm d

Group Art Unit

1773

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle* 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

- ☒ Claim(s) 1-8 _____ is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-8 _____ is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- *Certified copies not received: _____
- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "a laminated extruded resin sheetproduced by laminating a resin layers (B) on both surfaces of a resin layer (A).....the resin layer (A) being made by dispersing uniformly 0 to 50 parts by weight of a rubber-like polymerand the resin layer (B) bing made by and 0 to 70 parts by weight of a rubber-like polymer". The term "a" in line 2 of claim 1 should be deleted for grammatical agreement. The use of the term "like" in "rubber-like" renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by "-like"), thereby rendering the scope of the claim unascertainable. See MPEP § 2173.05(d). Claims 3, 4, 6 and 7 also recite "rubber-like" in the claim language and are therefore indefinite.

Claim 3 is dependent on claim 1 and recites that "the rubber-like polymer is an acrylic polymer having multilayer structure or a graft copolymer obtained by graft polymerizing 5 to 80 parts by weight of a rubber with 95 to 20 parts by weight of an ethylenically unsaturated monomer". However, claim 1 indicates that the methyl methacrylate resin (in both layers A and B)

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may comprise 0 parts of the rubber-like polymer and is therefore not necessarily present in the resin composition. Hence, Claim 1 should positively recite the rubber-like polymer if it is contemplated that the rubber-like polymer is present in the resin composition. Furthermore, it is unclear what is meant by “an acrylic polymer having a multilayer structure” or “graft polymerizing 5-80 parts by weight of a rubber with 95 to 20 parts by weight of an ethylenically unsaturated monomer”. Does “graft polymerizing 5-80 parts by weight of a rubber with 95 to 20 parts by weight of an ethylenically unsaturated monomer” indicate that the rubber-like polymer has both a rubber monomer and an ethylenically unsaturated monomer grafted thereon or does it indicate that a copolymer of a rubber and an ethylenically unsaturated monomer is grafted on the rubber-like polymer? Clarification is required.

Claim 4 is dependent on claim 1 and recites that “the insoluble methyl methacrylate resin particle is a methyl methacrylate resin particle having high molecular weight.....”. It is unclear what is meant to be encompassed by the term “high” in this instance and therefore it renders the claim indefinite.

The language of the above mentioned claims must be amended to clarify what is meant to be encompassed by the claim.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatakeyama et al. (US 5,804,287) in view of Visser (US 5,851,606).

Hatakeyama et al. disclose an acrylic-laminated injection molded article which is produced by adhesively laminating a resin layer with a specific acrylic film (Column 1, lines 5-10). The acrylic film (equivalent to layer B of the claimed invention) is obtained by using a rubber-containing acrylic polymer and comprises a methyl methacrylate resin which has 0-50 weight percent of at least one other vinyl monomer which is copolymerizable therewith and a rubber-containing polymer which is a graft copolymer of an elastic copolymer with 50 weight percent or more of a methacrylic acid ester grafted thereon (Column 2, lines 10-26 and 38-67 and Column 3, lines 1-48). The acrylic film may contain additives such as stabilizers, lubricants, processing aids, plasticizers, impact resistance aids, filler, coloring agents and UV absorber (Column 4, lines 48-54). The resin layer (equivalent to layer A of the claimed invention) serves as the base material composing the injection molded article and must be melt adherable to the acrylic film; examples include acrylic resins (i.e., methyl methacrylate resins). The acrylic film may be heated and shaped by vacuum molding and subsequently melt-integrated by extrusion molding (Column 6,

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lines 13-44). Hatakeyama et al. disclose the claimed invention but do not specifically state that the acrylic film contains methyl methacrylate resin particles. However, Visser discloses a thermoformable acrylic resin sheet wherein particles of a methyl methacrylate resin are incorporated into a liquid methyl methacrylate resin composition and brought into a flat mold and polymerized to produce the thermoformable acrylic sheet (Column 1, lines 4-13). The methyl methacrylate resin particles are crosslinked and have a particle size smaller than 1mm (Column 1, lines 63-67). The thermoformable acrylic resin sheet is intended for thermoforming into a shaped article by heating and softening the resin sheet in a vacuum mold (Column 5, lines 52-65). Accordingly, it would have been obvious to one having ordinary skill in the art to add methyl methacrylate particles to the acrylic film disclosed by Hatakeyama et al. given that Visser specifically teaches that addition of methyl methacrylate resin particles to a thermoformable acrylic sheet leads to excellent mechanical strength and improves its suitability for industrial use. Furthermore, with regards to the limitations that the laminate has a B/A/B structure wherein the layer thickness ratio is from 1/200/1 to 1/1/1 and that the difference of a ratio of the methyl methacrylate monomer unit constituting a base resin and a ratio of the methyl methacrylate monomer unit constituting the resin particle does not exceed 30%, the Examiner takes the position that it would have been obvious to one having ordinary skill in the art to laminate acrylic films on both sides of the resin layer given the expectation of equivalent results and to optimize the thickness of each layer and the concentration of each component by routine experimentation particularly in the absence of a showing of criticality.


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Conclusion

3. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Sheeba Ahmed whose telephone number is (703) 305-0594. The Examiner can normally be reached on Monday-Friday from 8am to 5pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Paul Thibodeau, can be reached at (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-5436.


Sheeba Ahmed
December 17, 1999


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700